HEMS Career Focus:

Famous scientists presentation project (past and recent) – emphasis on variety of disciplines in Marine Science and the cross-disciplinary nature of Marine Science – 1 week.

Archeological Oceanography unit – 2 days.

Tools and technology of marine scientists and progression / permanence of both simple and complex technology – 2 weeks.

Examining quantitative and qualitative techniques overview and practice -- 6 days. Connection to mathematics and statistics. Choosing the correct graphing technique for your projects – 4 days.

Designing an experiment: review and assignment – 2 days.

Scientists around the world and the processes they engage in – 2 days.

Examination of discovery, and the discussion of the role of readiness and serendipity. Real world examples – 2 days.

Interactive Science Notebook: with reflections, questions, and examples of current scientists in field and how they relate to what we are currently studying.

Weekly researched, clarified, and summarized student presentations of current scientists and their discoveries. Students are required to explain and discuss what they have learned, not simply read.

Students maintain a working live planted aquarium and relate concepts learned throughout their classes.

Students learn morphemes and related examples among a wide range of disciplines.

Maritime history and modern technology discussed in underwater exploration unit, while studying tools, techniques, comparing and contrasting important underwater vehicles (both ROV’s and AUV’s), various submersible designs and features. Career responsibilities, job requirements, and necessary education are discussed.

Weekly typed summarized science current event article from electronic or print media required of each student in chemistry classes. Many environmental, hydrological, agricultural, geological, and environmental issues are then discussed with class based on nature of article and the issues it raises.

Embry-Riddle Engineering Department project presentation to all HEMS classes and upper math classes by invitation. Brought working model of emergency water purification system and slide show about project Haiti. Question and answer session with college students about career interests, classes needed, motivation to choose this career, etc.

Plant sales, on-campus topiary maintenance, participation in Native American festival / Earth Day activities.

Working with the City of South Daytona to maintain their Sensory Garden open to the public.

Participated in Florida Agriculture Literacy Day activities at a nearby feeder school.

Participated in the University of Florida FFA Career Development Event in Gainesville. One student came in second in aquaculture competition. Others placed in Species ID, written exam, and anatomy and physiology test.

Entered a rookie team in an international robotics competition. Secured funding for and built a 110-pound robot from scratch in six weeks that passed technical inspection on the first attempt and competed in every scheduled round at the Florida regional competition without incident.

Obtained for the school a genuine historical artifact from NASA: a Space Shuttle tile. Has been used in recruitment as well as teaching environments.

Organized, equipped and registered a Science Olympiad team for competition with other high schools in Central Florida. Attended Coach’s Training. Created a reference library of materials to study and prepare for competition in 23 distinct disciplines. Gathered materials for construction of the physical challenges. Worked with students and family members to solve the technical challenges and build the necessary devices to compete.